

Claims

1. A medical treatment device comprising:
a treatment unit and a monitor unit positioned together at a treatment location;
said treatment unit including components that deliver medical treatment to a patient;
said monitor unit being signally connected to said treatment unit by means of a one-way communication mechanism such that said monitor unit are prevented from affecting the state of said treatment unit;
said monitor unit receiving data from said treatment unit and outputting at least data relating to a status of a treatment being delivered by said treatment unit.
2. A device as in claim 1, wherein said treatment unit and said monitor unit are housed together in a single housing.
3. A device as in claim 1, wherein said treatment unit and said monitor are connected to a common control panel with inputs and outputs, each connected such that any signals from said monitor unit are prevented from affecting a state of said treatment unit.

4. A device as in claim 3, wherein said treatment unit and said monitor unit and said control panel are located within a common housing.

5. A device as in claim 3, wherein said control panel comprises physically separate components that are connected by a one-way communications channel.

6. A medical treatment device, comprising:
a treatment machine with sensors and actuators configured to multiplex status information;

a monitor device having a programmable processor with a memory, said processor being configured to control functions, including data synthesis and display, of said monitor device responsively to software run by said programmable processor;

a one-way communications channel providing communications between said treatment machine and said monitor device, such that said treatment machine status is prevented from being affected by said software;

said treatment machine sensors and actuators being configured to apply data signals to said one-way communications channel, said processor being configured to control said functions responsively to said data signals.

7. A device as in claim 6, wherein said treatment machine and monitor device share a common housing.

8. A device as in claim 6, wherein said one-way communications channel is wireless.

9. A medical treatment device, comprising:

a blood treatment unit;

a monitoring control and display device;

a control computer controlling said blood treatment unit;

a monitoring computer controlling said monitoring control and display device;

said monitoring computer signally connected to said blood treatment unit such that failures in said monitoring computer cannot affect the state of said control computer.

10. A device as in claim 9, wherein said monitoring computer translates status information from said control computer and displays a translated result on said monitoring.